

REMARKS

Claims 1-45 are pending. Favorable consideration of the pending claims is respectfully requested.

IN THE DRAWINGS

The drawings contain minor errors. In particular, reference numeral "20b" (i.e., tab) has been inadvertently omitted from Fig. 1. Reference numeral "34b" (i.e., the outer surface of the underlay) has been improperly labeled as "34" in Fig. 1 and reference numeral "34" inadvertently occurs twice. Dotted lines in Fig. 6 are incorrectly drawn. One of the lead lines for reference numeral "24a" is incorrectly drawn.

Fig. 1 has been corrected to show reference numeral "20b". One occurrence of reference numeral "34" in Fig. 1 has been corrected to read "34b". The pattern of the dotted line in Fig. 6 has been redrawn. One of the lead lines for reference numeral "24a" has been drawn. Recitation of the tab "20b" and the outer surface "34b" throughout the specification provides support for the corrections to Fig. 1. The shape of the overlay illustrated in Figs. 1 and 2 provides support for the correction to Fig. 6.

In addition to the foregoing corrections, the drawings have been corrected to comport with the specification. In particular, reference numeral "62" (i.e., the trailing edge of the tabs) has been added to Figs. 1 and 2. Reference numeral "34b" has been added to Fig. 3. Reference numerals 42 and 46 have been added to Fig. 6. Support for reference numeral "42" is found in Fig. 2. Support for reference numeral "46" is found in Fig. 3.

Proposed corrections are indicated in red on an attached marked up copy of the drawings. Acceptance of the drawing corrections is respectfully requested.

IN THE SPECIFICATION

The specification contained minor typographical errors throughout. In particular, the article "the" was inadvertently omitted in the paragraph beginning on page 1, col. 1, line 6. The terms "overlay" and "underlay" were erroneously transposed

in the paragraph beginning on page 1, col. 1, line 61. The article "a" was inadvertently used in the place of the article "the" in the paragraph beginning on page 2, col. 3, line 7. Reference to FIGS. 2 and 3 was inadvertently omitted from the paragraph beginning on page 2, col. 3, line 48. In the paragraph beginning on page 2, col. 4, line 5, a comma inadvertently followed reference numeral "34a", "FIG. 2" was erroneously recited as "FIG. 1", and reference to FIG. 6 was inadvertently omitted. In the paragraph beginning on page 3, col. 5, line 11, the preposition "for" was intended to read "of" and the preposition "to" was inadvertently omitted. In the paragraph beginning on page 3, col. 5, line 22, reference numeral "56" was inadvertently omitted.

The specification has been amended accordingly. Entry of the amendments to the specification is respectfully requested.

IN THE CLAIMS

Claim 21-45 have been added because claims 1-20 claim less than what Applicant has a right to claim.

Claims 21-23 recite a tab and an underlay. In claim 21, the tab has a leading edge and a remaining portion. The underlay has a shadow line and a remaining portion. Granules on the leading edge and the shadow line are darker than granules on the remaining portions. In claims 22 and 23, the tab has a first shadow line and a remaining portion and the underlay has a second shadow line and a remaining portion. In claim 22, granules on the shadow lines are darker than granules on the remaining portions. In claim 23, granules on the shadow lines are a different color or shade than granules on the remaining portions. Each of these claims is clearly supported by the specification and drawings, which disclose a tab having a leading edge, a shadow line, and a remaining portion and an underlay having a shadow line and a remaining portion, wherein the leading edge and shadow lines are darker or shade and consequently, a different color or shade than the remaining portions.

Claim 24 recites a laminated shingle having a headlap section and a butt section, which are clearly set forth on page 2, col. 3, lines 9-11 of the specification.

An overlay has a tab in the butt section. The tab has an outer surface with a trailing edge adjacent the headlap section and a leading edge spaced from the trailing edge. This is clearly illustrated in Fig. 1. The tab has a width, which is illustrated in Fig. 2. An underlay is attached to an underside of the overlay. The underlay has an outer surface, which is positioned adjacent the tab, with a trailing edge adjacent the headlap section and a leading edge spaced from the trailing edge. This is illustrated in Fig. 1 as well. Different colored or shade granules adhered to the tab and the overlay. The granules are identified by numbers (i.e., first, second, third, and fourth) and by locations that correspond to locations of granules described in the specification. Consequently, there is no confusion about the granules being claimed. Support for colored granules is also clearly found in the specification. The term "color" is recited eighteen times in the specification, "colored" is recited seven times, and "colored granules" is recited six times. The granules on the tab and underlay are described in the specification beginning on page 2, col. 3, line 60. On page 2, col. 4, lines 1-4, the granules are described as being of different types of yield different color arrangements. In addition, page 3, col. 5, lines 51-53, it is clear that blend drops can be applied to the tab and underlay. It is well known to those of ordinary skill in the art of the invention that blend drops are colored granules. In addition, each of the drawings shows a tab and an underlay having granules that differ in coloration and shade. Accordingly, there is sufficient support in the specification for claim 24.

Claim 25 recites colored granules, which are identified by number (i.e., fifth) and by a location that correspond to a location of granules described in the specification (see page 3, col. 6, lines 24-25 and Figs. 1 and 2). Hence, claim 25 is clearly supported by the specification.

Claim 26 recites a shadow line (see page 2, col. 4, lines 11-14 of the specification) across substantially the entire width of the tab. This is clearly illustrated in Figs. 1 and 2. Claim 27 recites darker granules adjacent the leading edge of the tab. This is clearly supported by the specification (see page 2, col. 4, lines 6-8) and the drawings (see Figs. 1 and 2). Claim 28 recites black colored granules adjacent the

leading edge of the tab. This is supported by the specification on page 2, col. 4, lines 46 and 47 and the claims (see claims 5 and 10).

Claim 29 recites a shadow line adjacent the trailing edge of the underlay, which is supported by the specification (see col. 4, lines 6-8) and the drawings (see Figs. 1 and 3). Claim 30 recite darker granules adjacent the trailing edge of the underlay, which finds support in the specification on page 2, col. 4, lines 6-8 and Figs. 1 and 3. Claim 31 recites black colored granules adjacent the trailing edge of the tab. This is supported by the specification on page 2, col. 4, lines 46 and 47 and claims 5 and 10.

Claims 32 and 33 recites a second tab having colored granules forming a shadow lines. The specification and drawings clearly disclose two tabs, each of which have shadow lines, and colored granules (see page 2, col. 4, lines 1-4 and 11-14, and Fig. 1).

Claim 34 recites a method of making laminated roofing shingle having an overlay with a tab having leading edge and an underlay having a trailing edge. One color or shade of granules is applied to the leading edge of the tab and to the trailing edge of the underlay and a different color or shade of granules is applied to adjacent portions of the tab and underlay. The specification and drawings clearly disclose this invention (see page 2, col. 4, lines 5-48 and Fig. 1).

Claim 35 recites a base material for making the shingle, wherein the base material is a fiberglass mat comprising glass fibers and void spaces between the glass fibers, and a coating step that includes coating the glass fibers and filling void spaces between the glass fibers. This is disclosed in the specification on page 3, col. 5, lines 14-16. In claim 16, the coating is further defined as an asphalt coating, which finds support on page 3, col. 5, line 18. In claim 37, the coating step further comprises the step of applying inert materials to the coated mat, which is also supported by page 3, col. 5, line 18. In claim 38, a powdered limestone is applied to the coated mat. This is recited in the specification on page 3, col. 5, line 16,

Claims 39-43 further define a cutting step, the details of which are supported in the specification (see page 3, col. 6, lines 1-12) and the drawings (Figs. 1 and 6).

TECHNICAL DRAWINGS

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Claims 44-46 recite a step for applying granules. The step is supported by the specification on page 2, col. 4, lines 1-47 and page 3, col. 5, lines 51-53.

It is believed that the claims are in condition for allowance. Favorable consideration of these claims is respectfully requested.

IN THE ABSTRACT

The abstract contains minor typographical errors. In particular, the terms "overlay" and "underlay" in the abstract were erroneously transposed. Accordingly, the abstract has been amended to correct this error. Entry of the amendment is respectfully requested.

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION

Replace the paragraph beginning on page 1, col. 1, line 6 with the following new paragraph:

This invention relates to roofing shingles and a method of making roofing shingles. More particularly, the invention relates to laminated roofing shingles having staggered shadow lines and a method of making such shingles. The staggered shadow lines enhance the three dimensional appearance of a roof surface bearing the laminated shingles.

Replace the paragraph beginning on page 1, col. 1, line 61 with the following new paragraph:

The present invention is a laminated roofing shingle having staggered shadow lines. The shingle comprises an [underlay] overlay and an [overlay] underlay attached to an underside of the overlay. The overlay has a plurality of spaced-apart tabs. An opening is defined between each one of the tabs. Portions of the underlay are exposed through the openings between the tabs. A layer of granules is disposed on the tabs and the underlay. The layer of granules on the lower portion of the overlay are substantially darker in color than the granules on the remainder of the tabs. Similarly, a layer of granules is disposed on the underlay. The layer of granules on the upper portion of the underlay is substantially darker in color than the remainder of granules on the underlay.

Replace the paragraph beginning on page 2, col. 3, line 7 with the following new paragraph:

As shown in FIGS. 1 through 4, a laminated shingle 10 according to the invention comprises an overlay 12 and an underlay 14. The overlay 12 and underlay 14 cooperate with each other to provide a headlap section 16 and a butt section 18.

The overlay 12 has a generally rectangular configuration comprising [a] the headlap section 16. A plurality of tabs 20a, 20b, 20c extend from the headlap section 16 to partially form the butt section 18. Depending on the desired application and appearance of the shingles 10, the tabs 20a, 20b, 20c may have equal widths or different widths, such as the different widths W1, W2 shown in FIG. 2. Moreover, the tabs 20a, 20b, 20c may have a square, rectangular, trapezoidal or other geometric configuration. A plurality of openings 22a, 22b, 22c are formed between the tabs 20a, 20b, 20c. The underlay 14 also has a generally rectangular configuration. The underlay 14 is disposed beneath the overlay 12 and attached to an underside 23 of the overlay 12 with a portion of the underlay 14 exposed through the openings 22a, 22b, 22c adjacent the tabs 20a, 20b, 20c.

Replace the paragraph beginning on page 2, col. 3, line 48 with the following new paragraph:

In accordance with the preferred embodiment, a fiberglass mat (not shown) is provided as a base material for making the laminated shingle. During manufacture, an asphalt coating is applied to both sides of the fiberglass mat. An undersurface of the laminated shingle 10 may be coated with various inert materials with sufficient consistency to seal the asphalt coating and thus provide a non-tacky undersurface. The exposed outer surface of the laminated shingle, generally indicated in FIG. 1 at 34, is defined by the outer surface 34a of the tabs 20a, 20b, 20c and the portions of the outer surface 34b of the underlay 14 that are exposed through the openings 22a, 22b, 22c adjacent tabs 20a, 20b, 20c. The outer surface 34 of the laminated shingle 10 may be coated with various types of granules 36 (shown in Figs. 2 and 3) to protect the asphalt coating and provide a fire resistant surface. The headlap section 16 of the laminated shingle 10 is generally coated with an inexpensive layer of granules. The butt section 18 of the laminated shingle 10 may be coated with a layer of colored granules to add color to the laminated shingle 10. It should be understood that granules may be of

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different types and characteristics, to yield different shading, sizing, and/or color arrangements.

Replace the paragraph beginning on page 2, col. 4, line 5 with the following new paragraph:

An important feature of the laminated shingle 10 according to the present invention includes providing staggered shadow lines or darker granule zones 38, 40 on the outer surface 34 of the laminated shingle 10, as shown in FIG. 1. A first shadow line 38 is provided on the outer surface 34a of the tabs 20a, 20b, 20c, and a second shadow line 40 is provided on the outer surface 34b of the underlay 14. The first shadow line 38 starts at the leading edge 24a of the tabs 20a, 20b, 20c and covers a minority of the outer surface 34a of the tabs 20a, 20b, 20c. A remaining portion, or the majority of the outer surface 34a[,] of the tabs 20a, 20b, 20c, generally indicated in FIG. [1] 2 at 42, is located between the first shadow line 38 and a trailing edge 62 of the tabs 20a, 20b, 20c. The trailing edge 62 (shown in FIG. 6) of the tabs 20a, 20b, 20c is located along a side of the remaining portion 42 of the tabs 20a, 20b, 20c opposite the leading edge 24a of the tabs 20a, 20b, 20c and abuts portions of the leading edge 47 of the headlap section 16. The remaining portion 42 is substantially lighter in color than the first shadow line 38. The second shadow line 40 starts at the trailing edge 44 of the underlay 14 and covers a minority of the outer surface 34b of the underlay 14. A remaining portion, or the majority of the outer surface 34b, of the underlay, generally indicated at 46, is located between the leading edge 24b of the underlay 14 and a trailing edge 44 of the underlay 14. The remaining portion 46 is substantially lighter in color than the second shadow line 40. The remaining portions 42, 46 preferably comprise 80-92 percent of their respective outer surfaces 34a, 34b. Portions of the outer surface 34b of the underlay 14 are exposed through the openings 22a, 22b, 22c adjacent tabs 20a, 20b, 20c with the second shadow line 40 disposed adjacent a leading edge 47 of the headlap section 16. The first shadow line 38 on the leading edge 24a of the overlay 12 and the second shadow line 40 on the trailing edge

44 of the underlay 14 provide staggered shadow lines 38, 40. The darker granules forming the shadow lines 38, 40 of the laminated shingle 10 are seen in marked contrast to the lighter granules on the remaining portions 42, 46 of the laminated shingles 10. The granules forming the shadow lines 38, 40 are preferably fine black granules.

Replace the paragraph beginning on page 3, col. 5, line 11 with the following new paragraph:

The method for making laminated shingles 10 further comprises the step 112 [for] of coating the fiberglass mat. The fiberglass mat is preferably coated with asphalt coating. The asphalt coating both coats the glass fibers and fills the void spaces between the glass fibers. Powdered limestone (not shown) may be applied to the undersurface of the fiberglass mat after the asphalt-coating to provide a dry, non-tacky underside for the asphalt coating. It should be understood that various inert materials may be substituted for, or used in combination with, the powdered limestone for this purpose.

Replace the paragraph beginning on page 3, col. 5, line 22 with the following new paragraph:

Following the asphalt-coating step 112, the method of the invention comprises the step 114 of applying a layer of granules to the outer surface of the tacky asphalt coated fiberglass mat indicated in FIG. 6 at 48. Lower cost granules may be applied to portions of the fiberglass mat corresponding to the headlap section 16 of the overlay 12. Darker colored granules should be applied to portions of the fiberglass mat corresponding to the leading edge 24a of the tabs 20a, 20b, 20c to form the first shadow line 38. Darker colored granules are also applied to the trailing edge 44 of the underlay 14 to form a second shadow line 40. Lighter colored granules should be applied to the remaining portions of the fiberglass mat. FIG. 6 shows a schematic representation of a storage bin or hopper 50 that may be used to apply the desired

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surface coating to the fiberglass mat. The hopper 50 includes a plurality of partitions 52 which divide the hopper 50 into a plurality of compartments 56, 58, 60. Some of the compartments 56 of the hopper 50 contain lower cost granules that are applied to portions of the asphalt-coated fiberglass mat 48 corresponding to the headlap section 16 of the overlay 12. Some of the compartments 58 of the hopper 50 contain darker granules which are applied to portions of the fiberglass mat corresponding to the leading edge 24a of the tabs 20a, 20b, 20c and on the trailing edge 44 of the underlay 14. The other compartments 56, 60 of the hopper 50 contain lighter granules that are applied to the remaining portions 42, 46 of the fiberglass mat. It is to be understood that the blend drops (not shown) can also be applied to the remaining portions 42, 46.

IN THE CLAIMS

Add the following new paragraphs:

21. A laminated roofing shingle comprising:

an overlay having a tab with a leading edge having granules thereon and a remaining portion having granules thereon, wherein said leading edge granules are darker granules than said remaining portion granules; and

an underlay attached to said overlay, said underlay having a shadow line having granules thereon and a remaining portion having granules thereon, wherein said shadow line granules are darker than said underlay remaining portion granules.

22. A laminated roofing shingle comprising:

an overlay having a tab with a leading edge, a first shadow line, and a remaining portion, the shadow line being positioned between said leading edge and said remaining portion;

a layer of granules disposed on said first shadow line and on said remaining portion of said tab, said granules on said first shadow line being darker in color than said granules on said remaining portion;

an underlay attached to said underside of said overlay to cooperatively form said laminated roofing shingle, said underlay having a leading edge, a second shadow line, and a remaining portion between said leading edge of said underlay and said second shadow line, said leading edge of said underlay generally co-aligning with said leading edge of said tab, said underlay having an exposed portion; and

a layer of granules disposed on said underlay, said granules on said second shadow line of said underlay being generally darker than said granules on said remaining portion of said underlay.

23. A laminated roofing shingle comprising:

an overlay having a tab with a leading edge, a first shadow line, and a remaining portion, the shadow line being positioned between said leading edge and said remaining portion;

a layer of granules disposed on said first shadow line and on said remaining portion of said tab, said granules on said first shadow line being a different color or shade than said granules on said remaining portion;

an underlay attached to said underside of said overlay to cooperatively form said laminated roofing shingle, said underlay having a leading edge, a second shadow line, and a remaining portion between said leading edge of said underlay and said second shadow line, said leading edge of said underlay generally co-aligning with said leading edge of said tab, said underlay having an exposed portion; and

a layer of granules disposed on said underlay, said granules on said second shadow line of said underlay being a different color or shade than said granules on said remaining portion of said underlay.

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24. A laminated shingle having a headlap section and a butt section, comprising:

an overlay having a tab in said butt section, said tab having an outer surface with a trailing edge adjacent said headlap section and a leading edge spaced from said trailing edge, said tab having a width;

an underlay attached to an underside of said overlay, said underlay having an outer surface, said underlay outer surface positioned adjacent said tab with a trailing edge adjacent said headlap section and a leading edge spaced from said trailing edge; and

first colored granules adhered to said outer surface of said tab adjacent said leading edge of said tab;

second colored granules adhered to said outer surface of said tab separated from said leading edge of said tab by said first colored granules, said second colored granules having a different coloration or shade than said first colored granules;

third colored granules adhered to said trailing edge of said outer surface of said underlay; and

fourth colored granules adhered adjacent said leading edge of said outer surface of said underlay having a different coloration or shade than said third colored granules.

25. A laminated shingle according to claim 24, further comprising fifth colored granules adhered to said outer surface of said tab separated from said first colored granules by said second colored granules, said fifth colored granules having a different coloration or shade than said second colored granules.

26. A laminated shingle according to claim 24, wherein said first colored granules form a shadow line adjacent said leading edge of said tab across substantially said entire width of said tab.

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27. A laminated shingle according to claim 26, wherein said first colored granules comprise darker granules than said second colored granules.

28. A laminated shingle according to claim 27, wherein said first colored granules comprise black colored granules.

29. A laminated shingle according to claim 24, wherein said third colored granules form a shadow line adjacent said trailing edge of said outer surface of said underlay.

30. A laminated shingle according to claim 29, wherein said third colored granules comprise darker granules than said fourth colored granules.

31. A laminated shingle according to claim 30, wherein said first and third colored granules comprise black colored granules.

32. A laminated shingle according to claim 31, further comprising a second tab, said second tab adjacent said outer surface of said underlay, said second tab having sixth colored granules forming a shadow line adjacent a leading edge of said second tab.

33. A laminated shingle according to claim 32, further comprising fifth colored granules adhered to said outer surface of each of said tabs separated from said first and sixth colored granules by said second colored granules, said fifth colored granules having a different coloration or shade than said second colored granules and forming a fourth shadow line adjacent said headlap section.

34. A method of making a laminated roofing shingle having an overlay and an underlay formed from a base material having an outer surface and an undersurface, said overlay having a tab, said tab having a leading edge, said underlay having a trailing edge, said method comprising said steps of:

- (a) coating a base material to produce a coated base material;
- (b) forming a granule-covered sheet by applying a layer of granules to the outer surface of the coated base material so as to apply granules of one color or shade to portions of the base material corresponding to the leading edge of the tab of the resultant laminated shingle and to the trailing edge of the underlay of the resultant laminated shingle and apply granules of a different color or shade to adjacent portions of the tab and the underlay; and
- (c) cutting the granule covered sheet to form the overlay of the resultant laminated shingle and the underlay of the resultant laminated shingle.

35. A method according to claim 34, wherein the base material is a fiberglass mat comprising glass fibers and void spaces between the glass fibers and said coating step includes coating the glass fibers and filling the void spaces between the glass fibers.

36. A method according to claim 35, wherein the coating is an asphalt coating.

37. A method according to claim 36, wherein said coating step further comprises the step of:
applying inert materials to the undersurface of the coated fiberglass mat to make the undersurface non-tacky.

38. A method according to claim 35, wherein said coating step further comprises the step of:

applying powdered limestone to the undersurface of the fiberglass mat to make the undersurface non-tacky.

39. A method according to claim 38, wherein said cutting step further includes cutting the base material along a pattern to produce a plurality of tabs and openings of the overlays of the resultant laminated shingle of two side-by-side overlays, wherein each overlay is complementary to the other overlay.

40. A method according to claim 39, wherein said cutting step further includes cutting the base material along a pattern to produce a plurality of tabs and openings of the overlays of the resultant laminated shingle of two side-by-side overlays, wherein each overlay is complementary to the other overlay.

41. A method according to claim 34, wherein said cutting step further comprises the steps of:

(a) cutting the granule covered sheet into two overlapping horizontal lanes, each lane having a width corresponding to the width of the overlay of the resultant laminated shingle; and

(b) cutting the base material laterally at lengths corresponding to the length of the overlay of the resultant laminated shingle.

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42. A method according to claim 34, wherein said cutting step further comprises the steps of:

- (a) cutting the granule covered sheet into four horizontal lanes including two overlapping inner lanes each having a width corresponding to the width of the overlay of the resultant laminated shingle and two outer lanes each having a width corresponding to the width of the underlay of the resultant laminated shingle; and
- (b) cutting the granule covered sheet laterally at lengths corresponding to the length of the overlay and the underlay of the resultant laminated shingle, the overlay and the underlay being substantially the same length.

43. A method according to claim 34, further comprising said step of applying granules of the first color or shade to portions of the base material corresponding to the tab and spaced from the leading edge of the tab and separated from the granules applied to the leading edge of the tab by the granules of the second color.

44. A method according to claim 34, wherein the first granules form a dark shadow line adjacent the leading edge of the tab and the trailing edge of the underlay.

45. A method according to claim 44, wherein the first granules form a dark shadow line adjacent the leading edge of the tab, the trailing edge of the underlay, and a trailing edge of the tab spaced from the leading edge of the tab.

IN THE ABSTRACT

Replace the Abstract with the following new Abstract:

A laminated roofing shingle having staggered shadow lines comprises an [underlay] overlay and an [overlay] underlay attached to an underside of the overlay. The overlay has a plurality of spaced-apart tabs. An opening is defined between each one of the tabs. Portions of the underlay are exposed through the openings between the tabs. A layer of granules is disposed on the tabs and the underlay. The layer of granules on a lower portion of the overlay and on an upper portion of the [overlay] underlay are substantially uniform in color and darker in color than the granules the remainder of the tabs and the underlay. The darker layers of granules produce staggered shadow lines which enhance the three-dimensional appearance of a roof surface upon which the shingles are applied. A method for making the laminated shingles comprises the steps of providing a base material, coating the base material, applying layers of granules to produce the shadow lines, cutting the fiberglass mat, and attaching the overlays and the underlays together to produce the staggered shadow lines.

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